

AIRCRAFT TEST AND EVALUATION FACILITY



The Aircraft Test and Evaluation Facility (ATEF) at the Naval Aviation Systems Team in Patuxent River, Maryland, is an enclosed, acoustically designed facility which can operate on a 24-hour day regardless of noise restrictions or weather conditions. It is an environmentally unrestricted indoor test facility which reduces project and aircraft maintenance costs by eliminating weather delays and retesting due to poor data quality.

ATEF PERFORMS GROUND TEST OPERATIONS

ATEF provides the capability to ground test installed aircraft propulsion, mechanical, electrical, and pneumatic subsystems in a controlled environment, during static and engine operating conditions. The facility provides local water intrusion, solar heating, and wind evaluation capabilities. The acoustic structure reduces the outside noise level to an 86 dba sound pressure level during full power engine operations. A mobile engine analyzer test van is available for remote site evaluations.

ATEF is designed to accommodate a wide variety of DoD and privately owned aircraft with engines located adjacent to their center line, such as Navy fighter and attack aircraft. The facility will also accommodate other forms of testing, such as functional testing of ground support equipment or static testing helicopter systems. Testing operations involve the aircraft and aircraft engines, systems, and support equipment. Static test operations including weight and balance, fuel calibrations, night vision, x-ray, and many other test programs which



require special support or a restricted operating environment. Dynamic tests which require engine operation include “trim runs”, thrust, electrical, hydraulic, and fuel system checks, and general engine and system performance tests.

Environmental testing includes rain intrusion up to 20 in. per hour, solar radiation, or “heat soak”, as well as wind and blowing rain at speeds of up to 40 knots. The test equipment is presently restricted to localized testing, but can be expanded to encompass the complete aircraft if the requirement exists. ATEF provides a rapid turn-around

facility which allows testing of localized deficiencies identified during basic aircraft tests, or deficiencies identified during fleet usage.

ATEF is equipped with a complete computer monitoring, analysis and playback system. Test parameters can be monitored real-time on a digital display, or on a time history device such as a strip chart. This on-site capability permits immediate access to the aircraft, and allows the test personnel to make adjustments or modifications during the process of the tests. For projects which exceed the ground station capabilities, ATEF provides a direct TM and UHF communications link with the Chesapeake Test Range’s real-time telemetry system. ATEF also provides in-flight monitoring capabilities.

Aircraft test support includes the F-18E/F, F-14D, EA-6B, T-38, T-2, C-130, S-3B and T-45.

For more information about the ATEF facility, contact the Naval Aviation Systems Team at Patuxent River, MD, at 301-342-4691/5374 or DSN 342-4691/5374.

